

Amendments to the Claims

This listing of claims will replace the originally filed claims in the application.

Listing of Claims:

Claims 1 – 10 (canceled).

Claim 11 (new): An apparatus which may be used to generate and supply fluorine gas to a semiconductor processing system, said apparatus comprising:

- a) a fluorine gas generating means comprising:
 - 1) an electrolytic cell for the electrolysis of hydrogen fluoride to produce said fluorine gas, said cell further comprising:
 - i) an electrolytic bath, said bath further comprising hydrogen fluoride-containing molten salt;
- b) a gas storage means comprising a substitute gas, said substitute gas comprising at least one member selected from the group consisting of:
 - 1) nitrogen fluoride;
 - 2) sulfur fluoride; and
 - 3) chlorine fluoride;
- c) a gas switching section connected to said electrolytic cell and said gas storage means wherein said switching section selectively supplies said semiconductor processing system with either:
 - 1) said fluorine gas; or
 - 2) said substitute gas from said gas storage means;
- d) an electrolytic cell detector, wherein said detector detects the state of said cell; and
- e) a controller, wherein said controller acts on said switching section to feed said substitute gas to said semiconductor processing system.

Claim 12 (new): The apparatus of claim 11, wherein said detector measures the operating condition of said bath.

Claim 13 (new): The apparatus of claim 12, wherein said detector detects a parameter representative of said condition, said parameter comprising at least one member selected from the group consisting of:

- a) electrical current characteristics;
- b) liquid level; and
- c) temperature.

Claim 14 (new): The apparatus of claim 11, further comprising a path detector, wherein said path detector detects an abnormal state in the gas supply path from said cell to said semiconductor processing system.

Claim 15 (new): The apparatus of claim 14, wherein upon detection of an abnormal parameter by either said cell detector or said path detector, said controller feeds said substitute gas to said semiconductor processing system.

Claim 16 (new): An apparatus which may be used to generate and supply fluorine gas to a semiconductor processing system, said apparatus comprising:

- a) a fluorine gas generating means comprising:
 - 1) an electrolytic cell for the electrolysis of hydrogen fluoride to produce said fluorine gas, said cell further comprising:
 - i) an electrolytic bath, said bath further comprising hydrogen fluoride-containing molten salt;
- b) a gas storage means comprising a substitute gas, said substitute gas comprising at least one member selected from the group consisting of:
 - 1) nitrogen fluoride;
 - 2) sulfur fluoride; and
 - 3) chlorine fluoride;
- c) a gas switching section connected to said electrolytic cell and said gas storage means wherein said switching section selectively supplies said semiconductor processing system with either:
 - 1) said fluorine gas; or
 - 2) said substitute gas from said gas storage means;
- d) a path detector wherein said detector detects the state in the gas supply path of said fluorine gas from said cell to said semiconductor processing system; and
- e) a controller, wherein said controller acts on said switching section to feed said substitute gas to said semiconductor processing system.

Claim 17 (new): The apparatus of claim 16, further comprising:

- a) a buffer section on said gas supply path, wherein said buffer section controls the pressure and flow rate of said fluorine gas produced from said cell; and
- b) a buffer detector, wherein said buffer detector:

- 1) is situated with said path detector; and
- 2) is able to detect the status of said buffer section.

Claim 18 (new): The apparatus of claim 17, further comprising a compressor situated with said buffer section, wherein:

- a) said compressor pressurizes said fluorine gas from said cell; and
- b) said buffer detector detects the operational status of said compressor.

Claim 19 (new): The apparatus of claim 17, further comprising a buffer tank situated in said buffer section, wherein:

- a) said buffer tank temporarily stores said fluorine gas from said cell; and
- b) said buffer detector detects the pressure in said tank.

Claim 20 (new): The apparatus of claim 17, further comprising a flow controller situated in said buffer section, wherein:

- a) said flow controller supplies fluorine gas to said switching section at a specified flow rate; and
- b) said buffer detector detects the flow rate of said fluorine gas at said flow controller.

Claim 21 (new): The apparatus of claim 11, wherein said substitute gas comprises chlorine fluoride.

Claim 22 (new): The apparatus of claim 16, wherein said substitute gas comprises chlorine fluoride.

Claim 23 (new): A method for fluorine gas generation and supply to a semiconductor processing system comprising generating and supplying said fluorine with an apparatus, said apparatus further comprising:

- a) a fluorine gas generating means comprising:
 - 1) an electrolytic cell for the electrolysis of hydrogen fluoride to produce said fluorine gas, said cell further comprising:
 - i) an electrolytic bath, said bath further comprising hydrogen fluoride-containing molten salt;
- b) a gas storage means comprising a substitute gas, said substitute gas comprising at least one member selected from the group consisting of:
 - 1) nitrogen fluoride;

- 2) sulfur fluoride; and
 - 3) chlorine fluoride;
- c) a gas switching section connected to said electrolytic cell and said gas storage means wherein said switching section selectively supplies said semiconductor processing system with either:
 - 1) said fluorine gas from said cell; or
 - 2) said substitute gas from said gas storage means;
- d) a detector comprising at least one member selected from the group consisting of:
 - 1) an electrolytic cell detector that detects the status of said cell; and
 - 2) a path detector that detects the status of said gas supply path; and
- e) a controller, wherein said controller acts on said switching section to feed said substitute gas to said semiconductor processing system.

Claim 24 (new): The method of claim 22, wherein said substitute gas comprises chlorine fluoride.